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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,807	01/27/2004	James F. Garvey	20420.0003 (Garvey et al.	2456
1342	7590	08/22/2006	EXAMINER	
PHILLIPS LYTTLE LLP INTELLECTUAL PROPERTY GROUP 3400 HSBC CENTER BUFFALO, NY 14203-3509			CONLEY, SEAN EVERETT	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/765,807

Applicant(s)

GARVEY ET AL.

Examiner

Sean E. Conley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 6/8/2006 and 6/15/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,5,11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-10 and 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/27/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed June 8, 2006 and the supplemental amendment filed June 15, 2006 have been received and considered for examination. Claims 1-21 are pending with claims 2, 4, 5, 11, and 12 being withdrawn from consideration as being directed to a non-elected species.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8-10, 14, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Grenci et al. (U.S. Patent No. 5,979,075).

Regarding claims 1 and 10, Grenci et al. discloses a method of altering a fluid-borne contaminant, comprising the steps of: providing a roots-type positive displacement pump (2) having an inlet (11) and an outlet (12); connecting said pump inlet to a source of contaminated fluid (recirculating purge gas containing contaminants); operating said pump at a pressure ratio sufficient to elevate the pressure and temperature of the fluid and contaminants passing through the pump to alter substantially all of said contaminants passing through said pump. The roots-type

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positive displacement pump increases the pressure of the purge gas and heats the purge gas which in turn heats the contaminants entrained in the purge gas (see col. 1, claims 13-28; col. 2, lines 25-60; col. 4, lines 1-31; col. 7, lines 1-15; claims 1-7).

Regarding claim 8, Grenici et al. further discloses that the purge gas is a compressible gas as evidenced by the change in pressure as it passes through the roots-type positive displacement pump (see col. 6, line 54 to col. 7, line 25).

Regarding claim 9, Grenici et al. further discloses that the contaminants are entrained in the gas (see claim 1).

Regarding claim 14, Grenici et al. discloses that the time during which the temperature of the fluid and contaminants is elevated is controlled by restricting the flow of fluid and contaminants passing through the pump (see col. 2, lines 46-49).

Regarding claim 16, Grenici et al. discloses the step of providing a second pump, causing the contaminated fluid from the source to pass sequentially through the pumps (see col. 7, line 61 to col. 7, line 12).

Regarding claim 17, Grenici et al. discloses the step of recirculating the heated purge gas containing contaminants by passing the gas through the roots-type pump. Thus the purge gas is preheated by the previous cycle of the gas passing through the roots-type pump.

Regarding claims 18 and 19, Grenici et al. discloses that one of the contaminants entrained in the purge gas are hydrocarbon molecules which are a source of fuel and also a reagent (see col. 1, lines 13-20).

3. Claims 1, 3, 6-10 rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida (U.S. Patent No. 4,865,749).

Regarding claims 1, 6, 7, 9 and 10, Yoshida discloses a method of altering a fluid-borne contaminant, comprising the steps of: providing a roots-type positive displacement pump (Roots blower (4)) having an inlet and an outlet (as shown in figure 2) and connecting said pump inlet to a source of contaminated fluid (air containing bacteria). The Roots blower of Yoshida inherently operates at a pressure ratio sufficient to elevate the pressure and temperature of the fluid and contaminants passing through the pump to alter substantially all of said contaminants passing through said pump (see figure 2; col. 1, lines 10-18; col. 2, lines 33-45; col. 3, lines 10-15; col. 4, lines 45-50). This is evidenced by the Applicant's specification which states that a Roots blower compresses the gas thereby causing a pressure change between the inlet and outlet as well as a rapid increase in the temperature of the fluid. Even the smallest pressure change will cause a change in the temperature of the fluid (see page 6, lines 11-28 of Applicant's specification).

Regarding claim 3, Yoshida discloses that the process sterilizes a contaminated air stream (see col. 1, lines 30-35). It is well known that air contains oxygen (approximately 21%) which causes oxidation when combined with substances. The oxidation effect from the oxygen in the air stream will cause the contaminants in the air stream to be altered.

Regarding claim 8, Yoshida discloses that air is the gas being purified which is a well known compressible gas (see col. 1, lines 30-35).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 13, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grenci et al. as applied to claim 1 above.

Grenci et al. fails to teach a pressure ratio of at least 2.0 or a temperature of 200 degrees C for the purge gas containing the contaminants. However, Grenci et al. discloses that pressure and temperature of the fluid as it passes through the roots-type pump is easily varied and controlled (see col. 2, lines 43-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the pressure ratio between the inlet and outlet of the pump as well as the temperature of the fluid passing through the pump in order to optimize the process.

Additionally, the temperature and pressure ratio are result effective variables that affect the outcome of the process and it has been held that the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art, see In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grenci et al. or Yoshida as applied to claim 1 above, and further in view of Houde et al. (U.S. Patent Application Publication 2004/0002126 A1).

Grenci et al. and Yoshida do not teach the step of sampling the gas stream to determine the extent to which contaminants are removed.

Houde et al. discloses a method for monitoring and detecting the presence of microorganisms in an air sample taken from a gaseous environment such as ventilation ducts of healthcare settings to ensure that the air is safe for people (see paragraphs [0001], [0003], [0006]). The air sampling can further be used for detecting microorganisms in the air of an air purifier (see paragraph [0111]). The air sampling is undertaken to control microorganism air contamination (see paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Grenci et al. or Yoshida and include the steps of sampling the air stream after heating to determine the extent to which contaminants have been removed and adjusting the treatment process in response to the sampling using a sampling process taught by Houde et al. in order to determine if the process is completely altering the fluid borne contaminants in the gas stream.

### ***Response to Arguments***

6. Applicant's arguments with respect to all of the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

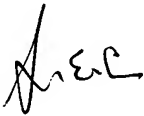
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEC



August 18, 2006



GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER